IEEE P802.11
Wireless LANs

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| Proposed Draft Text for Non-TB Sensing Meausrement Instance |
| Date: 2022-01-24 |
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Abstract

This document includes proposed draft text for the “Non-TB sensing measurement instance” sub-clause as defined in TGbf’s SFD.

Revisions:

* Rev 0: Initial version of the document.
* Rev 1: Added several co-authors.
* Rev 2: Revised based on comments received at the TGbf call on Feb. 10th.

## Current SFD text related to this topic:

**7.1.4.3 Non-TB sensing measurement instance**

(Motion 39, 21/1433r2) A non-TB sensing measurement instance is defined as follows:

* One non-AP STA is the sensing initiator and one AP is the sensing responder.
* Once the non-AP STA obtains a TXOP, it initiates a non-TB sensing measurement instance by transmitting an NDPA frame to the AP followed by an Initiator-to-Responder (I2R) NDP after SIFS. SIFS after the I2R NDP, the AP shall transmit a Responder-to-Initiator (R2I) NDP to the non-AP STA.
* If the non-AP STA is only the sensing transmitter, then the NDPA frame should configure the R2I NDP to be transmitted with minimum possible length with one LTF symbol.
* If the non-AP STA is only the sensing receiver, then the NDPA frame should configure the I2R NDP to be transmitted with minimum possible length with one LTF symbol.
* The details of the NDPA frame are TBD.
* I2R/R2I NDP formats are TBD.

## Proposed Spec Text Contribution

*Editor: Include the text below in Clause 11 of TGbf D0.1*

**11.1.4.2 Non-Trigger-based (Non-TB) sensing measurement instance**

Non-TB sensing measurement instance is the non-trigger-based variant of a sensing measurement instance. It is applicable in scenarios where a non-AP STA is the sensing initiator, and an AP is the sensing responder. Whenever the medium is available, the non-AP STA may initiate a non-TB sensing measurement instance.

A non-AP STA, acting as a sensing initiator, shall initiate a non-TB sensing measurement instance by transmiting a Sensing NDP Announcement frame addressed to the AP, followed by an Initiator-to-Responder (I2R) NDP after SIFS. In response to the correctly received Sensing NDP Announcement frame addressed to itself, SIFS after the I2R NDP, the AP shall transmit a Responder-to-Initiator (R2I) NDP to the non-AP STA.

If the non-AP STA is only the sensing transmitter, the Sensing NDP Announcement frame should configure the R2I NDP to be transmitted with minimum possible length with one LTF symbol. If the non-AP STA is only the sensing receiver, the Sensing NDP Announcement frame should configure the I2R NDP to be transmitted with minimum possible length with one LTF symbol.

* Note: The formats of the Sensing NDP Announcement frame, I2R NDP, and R2I NDP are TBD.

Figure 1 shows an example of a non-TB sensing measurement instance.



**Figure 1: An example of a non-TB sensing measurement instance.**